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ABSTRACT

This newsletter describes a research design enabling descriptive, comparative, evaluative follow-up studies of individual development in social contexts related to schooling. In addition, it describes a research project focusing mainly on evaluative studies of the ability of the educational system to confer, on different individuals in various circumstances, "equal opportunities to equivalent education." The research project used (1) data from selected large-scale Swedish longitudinal studies dealing with conditions in schools; and (2) administrative data from schools plus project data collected from two cohorts of students and their parents residing in 29 selected municipalities. The first cohort was composed of about 10,000 students who were in grade 6 of compulsory school in 1979-80. The second and younger cohort, numbering roughly 9,500, consisted of students in grade 3 in 1982. Measures used were student and parent questionnaires, standardized achievement tests, and ability tests. Stratification variables employed in selecting most of the 29 municipalities included population, proportion of Socialist-held seats on the municipal council, proportion of residents employed in public administration, and proportion of immigrant students in compulsory schools. Overall, the study involved a follow-up investigation of several consecutive age groups, with the first assessment in 1938 and the last planned for for 1985 or later. (RH)

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SCHOOL RESEARCH
Newsletter

December 1983 Current project 1983:4

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Title of project: Evaluation through follow-up of students (UGU)

Project No.: 2119

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BACKGROUND

Responsibility for school statistics was transferred in 1960 from the National Board of Education to the Central Bureau of Statistics (SCB)*. In addition to recording total numbers, SCB was also to collect data illustrating the progress of a sample of students through the school system. These statistics were termed *Individual Statistics* (Härnqvist & Svensson, 1973). Information concerning the schooling of students born on the 5th, 15th and 25th of each month in 1948 were collected by SCB between 1961 and 1969 inclusive, and corresponding information for students born on the same days of each month in 1953 were collected between 1966 and 1974 inclusive. These particulars, augmented by data collected by the Department of Educational Research in the University of Göteborg, has formed the basis of a large number of reports compiled primarily within that Department. Various supplementary studies of these groups of individuals are still being undertaken.

The original idea was for the project to continue with new age groups of students every five years, but for many different reasons this has not been done. The project now in progress, Evaluation Through Follow-up of Students (UGU), is, however, in many ways an attempt to build on the original plans.

The need for long-term evaluation in the education sector has been pointed out in many connections and in many different ways. Thus, the 1972 and 1976 Budget Bills laid down the following guidelines for evaluative work of this kind.

> "The results of new teaching methods introduced in schools must be continuously monitored and evaluated. This follow-up of results, however, must also take into account the influence of factors outside school. Particularly interesting from this point of view of follow-up and evaluation are long-term studies of the educational and occupational activities of a age group of students. Studies of this kind can be related to factors both within and outside school and will thus make valuable contributions to our knowledge of procedures in schools for accomplishing the intentions of the Curriculum."
>
> (Govt. Bill Prop. 1972:1, App. 10, Ministry of Education, p. 188)

*From 1983-01-01 named "Statistics Sweden"

Similar ideas are also stated in the Bill concerning the internal work of schools (SIA)*:

> "As I have already stated, various objectives, including for example such overriding objectives as equality and cognitive targets, must also be related to one another in the research context and a study made of the way in which school activities are influenced by various social factors. The more flexible utilisation of resources will also result in central evaluation acquiring greater importance, since there will be more reason for observing local events with regard to both organisation and results. This is also likely to influence the production of statistics and the collection of administrative data."
>
> (Govt. Bill Prop. 1975/76:39, p 331)

Researchers too have remarked on the need for longitudinal studies (cf. Winberg & Åkerman, 1976 and Boruch, 1976).

The inquiries undertaken in recent years in connection with a reform of various parts of the education system are also relevant here. In this connection, benefit has been derived from the information which various follow-up studies have supplied concerning individual experience during and after schooling. Great benefit has been derived from these studies concerning individuals from different years who have been followed up for equal educational periods.

Education operates in and must be studied in its social context. This is a fact to be taken into account in evaluation. The important factors explaining whether or not predefined objectives are achieved are perhaps primarily to be found, not in the actual teaching processes but in the general environment and domestic environment of the individuals concerned.

In addition, it has to be borne in mind that changes in the educational system are accompanied by changes in so many other sectors of society. Otherwise experience has shown that the wrong conclusions are liable to be drawn from studies of relationships between individual develop-

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*SIA is short for "skolans inre arbete" which means "the internal organization of school activities".

ment and educational measures of various kinds. In this perspective one also has to discuss the duration of follow-up studies. After all, many of the anticipated effects of educational activities are not supposed to become apparent until the individuals concerned have attained adulthood and entered employment (cf. Emanuelsson, 1974 and 1977).

EVALUTION BY FOLLOW-UP

Planning work in this project has been aimed at continuing longitudinal studies and follow-up studies of the kind most concretely worked out by the former Individual Statistics project. The greatest possible use will, of cource, be made of experience already derived from that project and other, similar studies. It was clear from the very outset that the natural and fruitful connection between studies of individual development and evaluative studies of schools and education should be maintained.

Ljung, Lundman and Emanuelsson (1973) had already presented a working model, termed "stepwise cohorts", which was intended to form the basis of a more refined construction of evaluative longitudinal studies. A more detailed description will be found in that report and in Emanuelsson (1979).

Different age groups are being studied on a longitudinal basis and with differently timed starting points. In this way one can study differences in the developmental patterns of groups of individuals of corresponding age but at different points in time. This approach also makes it possible to study the effects of varying educational experience by comparing groups within the same cohorts. In addition, comparisons of this kind can be repeated in the same way in several cohorts within the same age period but at different points in time. This facilitates analyses of possible effects of measures within the education system and of what can plausibly be taken as results of other circumstances and changes outside the system.

The approach affords good opportunities for cross-sectional studies of different age groups at the same point in time and/or the same ages at different points in time. Since the age distribution of each age group is one whole year, the importance of that distribution within the age groups can be studied over time with allowance also made for "historically" conditioned changes.

The focus of the project can be briefly summarised in the following six points:

1. Educational measures in society are part of the social context influencing the development of individuals. They are characterised among other things by declared intentions and given conditions. The effects intended are usually of a long-term nature.

2. It follows that studies of individual development must form part of the evaluation of educational measures. These studies must be aimed at examining the role of educational measures (e.g. school) in individual development processes.

3. We are concerned here, not with individuals in isolation but with the development of individuals in a community or, in the broad sense, in a society. The goals of activities are expressed in an "ecological perspective". The evaluative development study ought therefore to be aimed at achieving the same "total" perspective.

4 The study as such is descriptive. It describes developmental processes. It only becomes "explanatory" when its results are interpreted in a wider perspective, e.g. interpretations in relation to a holistic model of the role of education in society. The contribution which this study is capable of making is limited to a description of the way in which individuals develop in relation to the conditions prevailing. (This also applies to those parts of the project involving "purely statistical production", e.g. studies of "student flows through the system", which are mainly an Statistics Sweden responsibility.)

5. The above mentioned conditions - deliberately shaped and/or the consequences of factors beyond the scope of conscious control - change with the passing of time, and in these studies we therefore need to be able to relate changes in the attitudes of individuals to their surroundings (development) to various process factors in the social context. The factors which can be regarded as educational measures are particularly interesting here. Thus a study should be made of several age groups in sequential follow-ups, so as to facilitate combinations of cross-sectional and longitudinal comparisons and analyses.

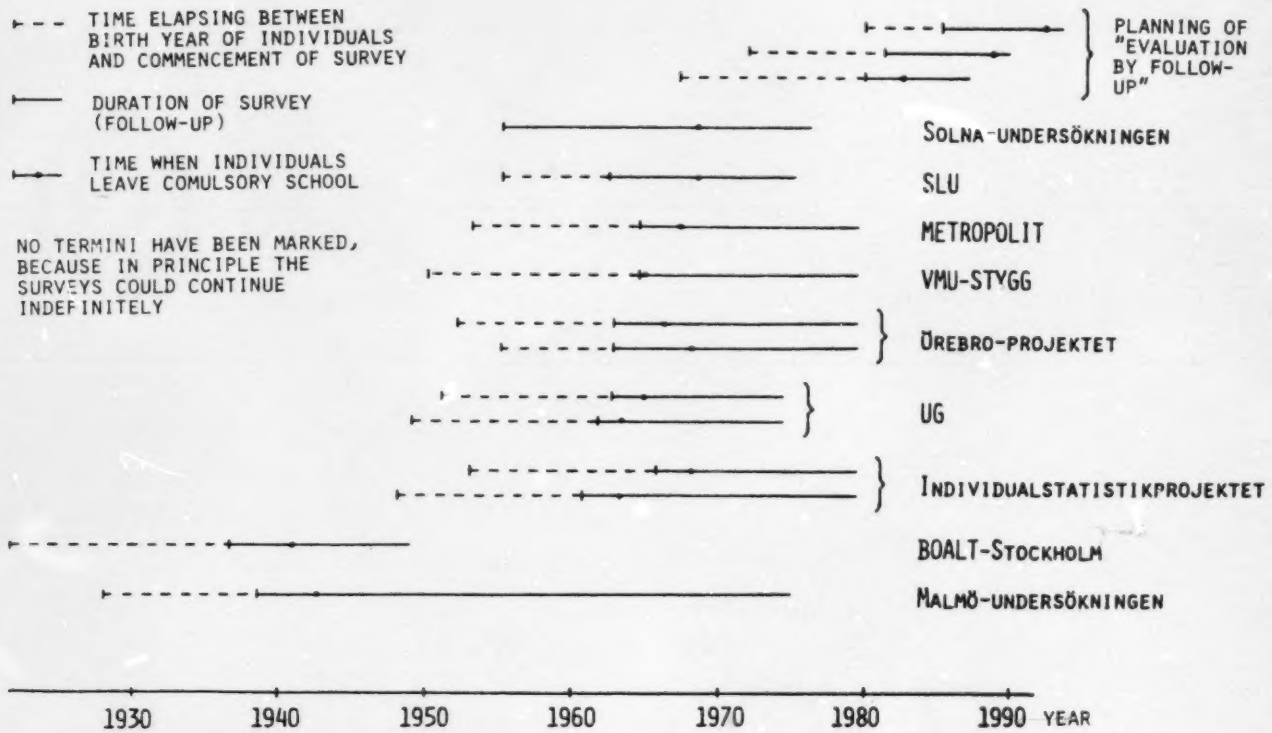
6. Since this is a basic project combined with specialised and intensive studies, the above principles and quidelines will not only govern the introductory planning phase. They will also demand deliberations and decisions through all the various phases of the project. These will include refinements of problem definitions, questions of selection, variable content etc. Guidelines and premises will also be relevant, not least, to the interpretation of results.

The simple sketch below illustrates the timing of this project in relation to previous follow-up surveys in the educational sector. It should be noted that a certain selection of studies has been made, concentrating on studies involving relatively large numbers of individuals, covering relatively long periods and dealing with conditions in schools.

The figure could be said to illustrate the sequential approach planned, involving a follow-up of several consecutive age groups ever since 1938. This, however, was not planned from the very outset; it just happened to turn out that way. It is important, however, to avail one-

self of the opportunities which the various research materials provide for comparative studies embracing what in some cases are quite considerable periods of time.[1]

SWEDISH LONGITUDINAL SURVEYS



[1] The various projects are described in the following publications:

Malmöundersökningen	- Husén m fl (1969); Prestegaard m fl (1979)
Boalt - Stockholm	- Boalt (1947)
Individualstatistiken	- Härnqvist & Svensson (1973)
Ungdom i Göteborg (UG)	- Andersson (1969)
Örebroprojektet	- Magnusson m fl (1975)
Västmanlandsundersökningen (VMU)	- Carlsten (1975)
Metropolit	- Janson (1975)
SLU	- Brucefors (1972)
Solna-undersökningen	- Karlberg m fl (1968)

Janson (1975) also includes a general presentation of most of the projects mentioned here.

PURPOSE OF THE PROJECT

The overriding purpose of the project is that of evaluation by means of follow-up and studies of development. The project is intended to facilitate further studies and follow-up surveys of the kind which have already occurred and are still occurring, for example, as part of the Individual Statistics project.

To increase the versility of the project database, the sequential approach is to be developed and opportunities are to be planned for special studies relating to the basic project. This will also make it possible for the project to be used more rapidly for evaluative cross-sectional studies of limited duration.

As far as pure production of statistics is concerned, the project will afford opportunities of wide-ranging studies of individual paths through the school system.

Summing up, the project can be said to focus mainly on evaluative studies of the ability for the education system to confer "equal opportunities to equivalent education" on different individuals in different circumstances.

Mainly by way of exemplification, a number of problem fields are mentioned here which are to be continuously studied under the project. An objective such as "equal opportunities to equivalent education" can be viewed from at least two different angles, viz resource distribution and utilisation. The distribution of resources can be studied for the most part without access to longitudinal studies of individuals, above all by collecting data from school management districts and individual schools, for example. The same does not apply, however, if we also wish to study utilisation aspects. Ultimately one must try to study the opportunities which individuals have of utilising the available resources. This means studying their development, and in the education sector it involves studying "the role of school" in

individual development processes. This demands data of a more "sensitive", individualised nature. Studies in this problem field will be made to concentrate on the following sub-problems or topics among others:

1. Pupils' experience of their own school and educational situation and the way in which these experiences are connected with planned and/or continued education.

2. Studies of individual "achievement development". What developmental patterns can be found in this field for groups of students adjusting unsatisfactorily to school situations in various respects? What, for example, is the achievement development undergone by pupils showing various signs of school fatique at an early stage of their school career? What substantial "equal opportunities" can be seen in their educational experience?

3. The role and effects of remedial teaching. There has still been very little investigation of this field, at least longitudinally, except for studies of individual remedial groups. What we usually lack is comparisons between remedial and other student groups presenting the greatest possible similarity of circumstances. Being able as it is to draw on data from more than one age group, this project will afford great opportunities of making such comparisons over time and between different points in time.

4. The developmental conditions and opportunities if immigrant students. This problem also requires studying in a longer developmental perspective. To enhance our understanding of the complexity of such problems, we need to be able to study the situation of immigrant students on a longitudinal basis while at the same time including "native" pupils whose developmental circumstances are similar in many ways.

Some of the problems mentioned here as examples are of such a kind as to require relatively detailed intensive studies of small groups of individuals. They have nonetheless been included as examples, because they can also illustrate possible ways of attaching special studies to the project. Studies of this kind can draw on information concerning the entire survey groups, for example as a means of appropriately sampling interesting subgroups.

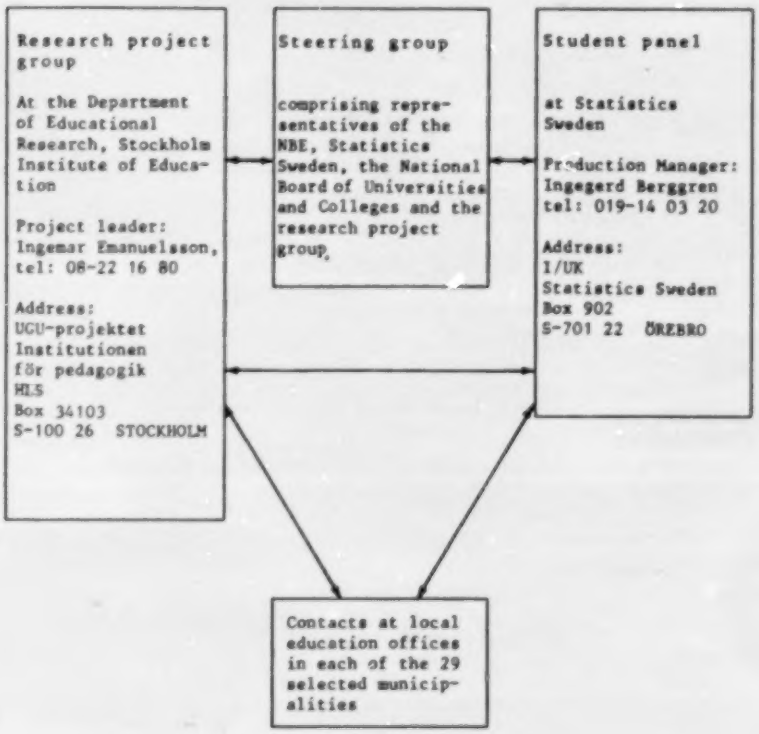
In this exemplification of problem fields, mention should also be made of the important bearing which this project has on future studies of adult education and other recurrent education. It will provide opportunities of relating such education to the previous educational experience of the individuals concerned. At present opportunities of this kind are few and far between.

ORGANISATION OF THE PROJECT

This project is being jointly conducted by a research group at the Department of Educational Research at the Stockholm Institute of Education and Statistics Sweden. During the introductory phase, this part of the project is being funded by the NBE as an assignment commissioned from the Department. Other interested parties may also become financially involved in due course. The organisation of the project is illustrated in the figure below, from which it will also be seen that there is a steering group comprising representatives of various interests.

EVALUATION THROUGH FOLLOW-UP OF STUDENTS
(The UGU-project)

Organisation and addresses


Research project group
At the Department of Educational Research, Stockholm Institute of Education
Project leader: Ingemar Emanuelsson, tel: 08-22 16 80
Address: UGU-projektet Institutionen för pedagogik HLS Box 34103 S-100 26 STOCKHOLM
Steering group
comprising representatives of the NBE, Statistics Sweden, the National Board of Universities and Colleges and the research project group
Student panel
at Statistics Sweden
Production Manager: Ingegerd Berggren tel: 019-14 03 20
Address: I/UK Statistics Sweden Box 902 S-701 22 ÖREBRO
Contacts at local education offices in each of the 29 selected municipalities

SAMPLING

The first cohort in the project comprises students who were in grade six of compulsory school in 1979/80. A sample of about 10,000 was drawn from this population. The size of the sample was above all determined in the light of experience from the previous Individual Statistics project, which employed a sample of this magnitude. The sampling procedure, which has been described in detail in Emanuelsson (1979 and 1981), involved two steps. First a stratified selection was made of 29 municipalities, and this was followed by a systematic selection of classes in the same municipalities. In the small municipalities, all classes were included. The investigation group comprises students belonging to the 421 selected classes on 15th April 1980. Following checks and the elimination of students refusing to participate or whose parents/guardians refused to allow them to do so, the group comprises 9,108 persons. Each of these students is now being followed up, even if he or she leaves the original class. Most of the students were born in 1967.

The second and younger cohort in the project was selected by the same procedure in the spring of 1982. This selection took place in grade 3. Most of the students in this group were born in 1972, i.e. they are five years younger than the menbers of the first cohort. The number of students in the younger group cannot be stated exactly at the time of writing, but it is roughly 9,500. Since classes are smaller in grade 3 than in grade 6, the number of classes selected is larger, about 550.

The stratification variables employed in selecting the municipalities comprised population, proportion of socialist-held seats on the municipal council, proportion employed in public adminstration and proportion of immigrant students in compulsory schools. The three biggest municipalities in the country formed strata of their own and were selected with a probability of 1. The following municipalities are taking part in the project:

Municipality	Municipality
Järfälla	Mölndal
Stockholm	Vänersborg
Älvkarleby	Töreboda
Katrineholm	Lidköping
Eskilstuna	Hammarö
Strängnäs	Hällefors
Oskarshamn	Örebro
Perstorp	Karlskoga
Svalöv	Surahammar
Malmö	Ludvika
Höganäs	Ange
Eslöv	Örnsköldsvik
Varberg	Luleå
Öckerö	Haparanda
Göteborg	

COLLECTION OF DATA FOR THE PROJECT

A detailed account of the initial collections of data will be found in the second report from the project (Emanuelsson, 1981), and only a very brief account will therefore be necessary here. The collection of data for a project of this kind necessitates extensive information activities, as can be seen from the following timetable for the initial collections of data in the spring of 1980.

INITIAL DATA-COLLECTION TIMEABLE OR THE UGU PROJECT

1979				1980						
September	October	November	December	January	February	March	April	May	June	July-December
Information to authorities and organisations	Information and participation inquiries to the local education authorities of the selected municipalities		Replies from LEAs	Selection of classes	Information to municipal contacts Municipal questionnaire Collection of classes registers Information to county school psychologists	Information headmasters and local parent-associations, teachers and parents	Dispatch of material information for collection of data from students and parents Reminders Lists and letters concerning collection of standardised achievement test results	Requested data sent in	Collection of administrative data from school offices	Supplementary collections

Two main categories of data are being collected. The first of these comprises *administrative data from school* offices or their equivalent. These data concerning the individual students are available from registers etc. on which school statistics are based. Date of this kind are collected by Statistics Sweden at the end of every school year. The data thus collected comprise marks, study options, courses taken, supportive measures and/or remedial teaching, mother tongue instruction, absence etc. In addition, data are needed concerning any changes of class and moves to other schools and/or municipalities, in order for the follow-up of students to continue. In cases where individuals have died or emigrated, data to this effect are also collected by Statistics Sweden. Since the administrative data - also termed SCB data - can be collected for all individuals in the investigation groups, the database acquired by Statistics Sweden constitutes the foundation of the register of students of the project. This can be augmented by means of what are termed project data; see below.

Project data, the second category of data collected, are usually obtained directly from the individuals concerned and/or their parents/guardians, except that standardised achievement test results for all classes in which such tests are taken are collected from the teachers. Information from students is obtained by means of questionnaires and test papers, while information from parents/guardians is obtained by means of questionnaires only. So far the following collections of data have been undertaken:

Age group 1 (born 1967)

Student questionnaire, spring 1980 (grade 6)
Ability test, spring 1980
Standardised achievement tests in grade 6, 8 and 9
Questionnaire to parents/guardians, spring 1980

Age group 2 (born 1972)

Students questionnaire, spring 1982 (grade 3)
Ability test, spring 1982
Arithmetic and reading tests, spring 1982
Questionnaire to parents/guardians, spring 1982

The questionnaires to students in grades 3 and 6 are essentially identical, but certain allowances have been made for the lower age of the younger cohort at the first collection of data. The content of the questionnaire can be briefly summerised as follows:

(a) The students' selfconcept in educational situations

(b) The students' view of their own ability in relation to that of others

(c) Perceived ability to cope with school work

(d) Reasons for senior level option choices (grade 6 only)

(e) Plans for the future (grade 6 only)

(f) Occupations of parents/guardians (grade 6 only)

(g) Leisure activities

The ability tests given in grade 6 in spring 1980 are exactly the same as those used in the Individual Statistics project in 1961 and 1966.

Opposites - a verbal test
Metal sheet folding - a spatial test
Number series - a logical reasoning test

The collection of data in grade 3, spring 1982, employed two of the sub-tests from the DBA battery. These are the same kind as the first two sub-tests in grade 6, viz

Opposites and
Metal sheet folding

The test paper for the younger age group (grade 3) also included two tests of *basic skills*, viz an arithmetic test and a reading test.

The questionnaire to parents/guardians was practically the same on both occasions. It included questions on five subjects:

(a) The child's family background

(b) Parental aims and preference concerning the child's education

(c) Parental involvement in work and other occupations outside the home

(d) The parents' own education and their evaluation of the same

(e) Ranking of a number of school objectives according to their perceived relative importance

The next scheduled collections of data comprise a renewed questionnaire survey of the individual members of the older cohort one year after they should normally have left compulsory school, i.e. spring 1984. The next collection of project data for the younger cohort will take place in grade 6, i.e. spring 1985. On that occasion the plan is to administer the same questionnaires and tests as were used in grade 6 in spring 1980.

For descriptions of collection procedure, the construction of instruments, dropouts etc., reference is made to the above mentioned report and to working papers obtainable from the project. An account of data collections by Statistics Sweden has been compiled by Bengt Larsson (1983) and is obtainable on request (see below).

REPORTS

Reports hitherto presented from the project are listed below.

Although, for obvious reasons, results from the longitudinal studies under the project cannot be presented until later on, reports will nonetheless be made continuously. The first collections of data have already added valuable cross-sectional information to the project database. Information of this kind is now being processed, and the results will be reported as soon as possible. Another purpose of this continuous reporting is to disseminate knowledge concerning the project and to make the data collected available for processing within special studies of various kinds.

Reports from the project

Emanuelsson, I. Evaluation through follow-up of students. A new Individual Statistics project. *Rapport från Institutionen för pedagogik, Högskolan för lärarutbildning i Stockholm, 11/1979*, (In Swedish)

Emanuelsson, I. Evaluation through follow-up of students. II. The first collections of data. *Rapport från Institutionen för pedagogik, Högskolan för lärarutbildning i Stockholm, 10/1981*. (In Swedish)

Emanuelsson, I. *Evalution through Follow-up of Students*. A brief Presentation of Ongoing Longitudinal Studies of Educational Development in Two Cohorts. Stencil. The Department of Educational Research, Stockholm Institute of Education, August 1982.

Pettersson, A. Evalution through Follow-up of Students. III. Analysis of mathematics items, grade 3. *Rapport från Institutionen för pedagogik, Högskolan för lärarutbildning i Stockholm, 7/1983.* (In Swedish)

Working papers under the UGU project

Pettersson, A. Construction and testing of instruments for data collection in grade 3. Working paper under the UGU project. Department of Educational Research, Stockholm Institute of Education. May 1982. (In Swedish)

Ek, K. & Pettersson, A. Collection of English standardised achievement test results for grade 8, spring 1982. Working paper under the UGU project. Department of Educational Research, Stockholm Institute of Education. November 1982. (In Swedish)

Emanuelsson, I. Alternative courses, standardised achievement tests and marks in grades 7 and 8. Description of some preliminary processing and analysis. Department of Educational Research, Stockholm Institute of Education. March 1983. (In Swedish)

Emanuelsson, I. Alternative courses in grade 8 and parental education. A study of interrelationships. May 1983. (In Swedish)

Ek, K. & Pettersson, A. Collection of mathematics and Swedish standardised achievement test results for grade 9, 1982/83 school year. Department of Educational Research, Stockholm Institute of Education. June 1983. (In Swedish)

From Statistics Sweden, address: Karlavägen 100, 115 22 Stockholm

Emanuelsson, I. Evaluation through follow-up. Preparatory plans for the continuation of Individual Statistics. *Promemorior från SCB, 1976:10*. Stockholm, Central Bureau of Statistics. (In Swedish)

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Emanuelsson, I. (1981). *Evaluation through the follow-up of students. II. The first collections of data*. Rapport nr 10 från Institutionen för pedagogik vid Högskolan för lärarutbildning i Stockholm. (In Swedish)

Husén, T., Emanuelsson, I., Fägerlind, I. & Liljefors, R. (1969). *Talent, opportunity and career*. A twenty-six year follow-up of 1,500 individuals. Stockholm: Almqvist & Wiksell.

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